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## ABSTRACT

This study explored the relationship between literacy learning and technology. A teacher-researcher and a university researcher collaborated on a yearlong study of three intact eighth-grade classes at a middle school in Southern California. Examined were the effect of electronic discussion groups on students' motivation to read and literacy responses and the effect of the ease of software use (First Class (copyright)) on student responses. Data suggest that students in the sample found responding on the computer motivating initially. As the online discussions began, there were many instances of emoticons and changes in font and color, but as the year went on students became more engaged in the discussions themselves, and novelty elements declines. Some students preferred the more traditional instructional sequences, but overall, it appeared that the asynchronous nature of online discussions prompted students to think more deeply about their responses to the literature and other students. Student responses reflected qualitative differences in favor of electronic writing, but did not demonstrate that electronic writing improved students' overall writing achievement. (Contains 11 references.) (SLD)

# Exploring Electronic Discussions with Middle School Students

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## A. Objectives

In middle school contexts, literature is utilized for many purposes: to motivate students, to improve their reading skills, to teach them concepts and to engender world knowledge. Literature study is also a field of inquiry in its own right. Technological competence is an educational area that is increasingly critical to students' academic achievement. Our study explores the intersection between literacy learning and technology. A teacher-researcher and a university researcher collaborated on a yearlong study of three intact eighth-grade classes at a middle school in Southern California.

### Research Questions:

- 1) What effect would electronic discussion groups have on middle school students' *motivation to read* selected literature as they participated in literature circles?
- 2) What effect would electronic discussion groups have on the *literary responses* of eighth-grade students?
- 3). What effect would the *ease of the software* (First Class©) have on student responses?

## B. Theoretical Perspective

McEneaney (2000) has argued that the hypertext environment will transform the ways in which we read and write in a "media saturated" world (O'Sullivan, Dutton & Rayner, 1998).

Literacy is "on the verge of reinventing itself" Alvermann & Hagood, (2000, p. 193). Multiple literacies across the curriculum can include such varied things as media production, information technology, critical media literacy, web-based literacies, aesthetic literacies, communications, scientific literacy, and the ability to produce multimedia.

The spectrum of literacies is referred to by different names, such as media literacy (Grisham, 2001), hypermedia literacy (Eagleton, 2002), and ICT (Information and Communications Technology).

Karchmer (2001), borrowing the term from Labbo and Reinking (1999), uses the notion of "multiple realities" to describe the intersection of literacy, instruction, and technology. Adams and Hamm (2000) state, "Being literate now implies having the ability to decode information from all types of media." (p. 3)

Students, though excellent consumers of entertainment, frequently lack experience with academic uses of technology. Students may *know* that something electronic works, but *not why* or how it works, nor do many students have an interest in this. Teachers may assist students to transcend this superficial or novelty aspect of technology and extend their interests into more academically useful channels.

Our study investigates ways in which technology and literacy can converge to enhance the middle school literacy curriculum. We sought to understand how students could utilize an electronic context for the discussion of literature. We wanted to know how students would adapt to the technology of online discussion, whether they would be motivated by online discussions, and whether they would exhibit a growth in their academic use of technology.

### **C. Modes of Inquiry**

A teacher-researcher and a university researcher collaborated on a yearlong study of three intact eighth-grade classes at a middle school in Southern California. During this time the university researcher visited the classroom for a full day once per week during an entire academic year as a participant-observer. During that time the teacher -researcher conducted literature circles (Daniels, 2002) with the following components:

- (1) student choice of literature;
- (2) student selection of literature  
partners based on book choice;
- (3) use of role sheets to respond to the  
literature;
- (4) electronic discussion of literature;
- (5) face-to-face discussion of literature;
- (6) paper journals in response to the  
literature.

The teacher-researcher focused instruction on literary elements such as plot, theme, setting and characterization, as well as sub-elements (for example under plot would be conflict) and taught students how to use the First Class© client software to conduct electronic discussions about literature.

The university researcher participated by working with groups of students in responding electronically and trouble-shooting, as well as closely observing the classroom interactions.

The study methodology is primarily descriptive and interpretive (Ericksen, 1986), documenting the classroom activities and analyzing collected data to provide the perspectives of the participants. Observation notes, transcripts of online discussions, samples of journal writing, written surveys from students, and focus group interviews of students form the data set.

### **D. Data Sources**

<b>Question</b>	<b>Data</b>	<b>Analysis</b>
<b>1. What effect will threaded discussion have on the writing skills of 8<sup>th</sup> graders?</b>	<b>Evidence: (1) Writing samples –3X during year (2) Transcripts of threaded discussion writings (3) SAT-9 scores? Portfolio examples?</b>	<b>Analysis: Comparisons of style, word use, grammar and mechanics. Possible 6-trait analysis? Check on formality v. informality of writing.</b>

<b>2. What effect will threaded discussion have on the motivation to write of 8<sup>th</sup> graders?</b>	<b>Evidence: (1) Writing motivation instrument (pre-post) (2) Focus Group Interviews (3) Link to writings (4) Observations?</b>	<b>Analysis: Pre-post of writing motivation instrument; comparison to responses in audiotaped focus group interviews; compare high and low motivated students to their responses. Observe selected students.</b>
<b>3. What effect will threaded discussion have on the literary responses of 8<sup>th</sup> graders?</b>	<b>Evidence: (1) Threaded discussions (2) Written products (3) Transcripts of oral discussions?</b>	<b>Analysis: Use 6 trait writing rubrics to compare threaded discussion writing with classroom writing. If indicated, audiotape discussions and compare on literary elements such as theme, characterization, etc.</b>
<b>4. What effect will ease of program (First Class) have on student responses?</b>	<b>Evidence: Descriptions of training, focus group interviews, degree of participation (entries)</b>	<b>Analysis: Descriptive, based on self-report. Compare level of participation of students with engagement in classroom writing/ discussion.</b>
<b>5. What effect will technology (First Class) have on teaching of literary response via threaded discussion?</b>	<b>Evidence: (1) Teacher's instructional work (online and classroom real time) (2) Interview</b>	<b>Analysis: Look at teacher planning and how it evolves using technology to replace low-tech instruction. Describe process. Provide examples and artifacts.</b>

Data analysis includes determining codes for the data. For example, the observation notes were coded in color for instances of student engagement in technology and in face-to-face discussions so that they could be compared. Survey and focus group data were compiled to inform the researchers of student attitudes and motivation. The teacher-researcher and the university researcher discussed and checked all codings for reliability and checked carefully for disconfirming data. Triangulation of multiple data sources lends additional reliability to findings.

#### **D. Findings**

Data suggest that students in our sample found responding on the computer initially motivating. This concurs with other researchers' findings about the novelty aspect of technology and young people.

For example, in our survey, we found the four most common uses of technology to be (1) playing games online or on computer; (2) surfing the net; (3) chat rooms and/or email (America

Online's Buddy System was named frequently), and (4) homework. Thus academic applications of technology were a distant fourth for middle school students in our sample.

When students began discussing books online we noted many instances of emoticons, font size and color changes, etc. However, as the academic year proceeded, students became more engaged in the discussions themselves and these novelty elements declined. We noted fewer emoticons and more lengthy and substantive entries.

Not all students were motivated by the opportunities to use computer for discussion of books. We found a number of students who, for various reasons (including a lack of keyboarding skills), found that they preferred the more traditional instructional sequences.

Analysis of electronic transcripts over time led us to conclude that the asynchronous nature of online discussion prompted students to think more deeply about their response to the literature and to the members of their groups than did the paper journal or the face to face discussions. What students did in the electronic discussions was to read and thoughtfully respond to their peers' postings. Thus the entries provided for a far more authentic discussion than did the face-to-face discussions, where students (based upon observation) "did" their parts, taking turns and failing to react or build upon others' offerings.

We found that teacher participation in the electronic discussions was critical to increasing the level and complexity of student response. Both the teacher researcher and the university researcher responded to students' postings at various times. When this scaffolding effect was missing, students made less effective responses.

We found that the electronic discussions were more interactive and produced better literary responses than paper journals or face to face discussions.

Software was easy for students to learn and presented few problems. When students were given time to respond during school hours using the software, the process went smoothly. However, the Web browser interface was less effective and students had trouble accessing it from their homes.

We noted several implications for instruction. For example, researchers adjusted the demands of the literature circles to reduce the academic load on students. At first we asked them to do it all: write in paper journals, discuss face-to-face, make electronic journal entries. As we gained confidence in the students' use of the technology, we were able to relax some of the other requirements. The teacher researcher gained confidence that the electronic discussions were contributing to students' academic development, although no claims for academic gain can be made from the data.

Finally, the rigidity of literature circle protocol as we applied it appeared to cause a pro forma discussion. Students “did” their parts without much true engagement in the face-to-face discussions as observed over time.

Examination of paper journals indicate that proforma responses were universal. Students produced what they assumed the teacher wanted, but entries were stale and without voice.

In contrast, the online discussions appear to have broken that rigidity and tended to produce more genuine responses. Because students felt a sense of responsibility to their peers, we noted a form of positive peer pressure response to keep up with reading, to take more risks in responses, and to exhibit higher order thinking skills.

The comparisons of writing in electronic discussions and paper journals reflected qualitative differences in favor of electronic writing, but did not demonstrate that electronic writing improved students’ overall writing achievement.

#### E. Educational Importance of Study

Many education policy makers have called for the integration of various sorts of technology into the K-12 classroom. This study expands our knowledge base about exemplary technology programs. The focus is on one middle school teacher and three intact classrooms of eighth-grade students. The instructor has been experimenting with electronic discussion groups for his students as they read and respond to core and recreational literature. While there have been a number of studies on electronic discussion groups, very little has research been done at the K-12 level on the effects of such a technology integration on students’ motivation, academic achievement, and on the classroom teacher’s structuring of such a program.

Taking advantage of the unique feature of technology (in this case, asynchronous communication) we created a new curricular use in literacy. Published studies on electronic discussion groups are still rare. A search of ERIC revealed only 16 publications, of which three were actual research studies, involving the use of electronic discussion groups. Most of these involved adults involved in distance education programs. Only one study involved K-12 students. Parker (1999) investigated the effectiveness of a shared, “Intranet” learning environment on the problem-solving ability and reflective meta-cognition of 78 9th and 10th grade biology students in Texas. Findings from this study supported the use of electronic discussion groups in the high school learning environment.

Karchmer (2001) examined the convergence of technology and literacy in exemplary teachers’ classrooms, calling for additional research into the area of student motivation.

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